

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL ADJUSTMENT ADMINISTRATION

WESTERN DIVISION

1937 AGRICULTURAL CONSERVATION PROGRAM—WESTERN REGION

Western Region Bulletin No. 105

INSTRUCTIONS WITH RESPECT TO THE ESTABLISHMENT OF GRAZING CAPACITY, CERTIFICATION OF MOUNTAIN MEADOWLAND, PERFORMANCE OF RANGE-BUILDING PRACTICES, AND THE FILLING OUT OF RANGE-LISTING SHEETS

The following instructions are issued pursuant to the provisions of Western Region Bulletin No. 101 as amended (hereinafter referred to as WRB-101 as amended) for each of the States of the Western Region (and for certain special counties).

PART I—GENERAL

Attention is directed to the definitions of ranch operator, range land, and grazing capacity contained in part I of WRB-101 as amended.

Ranch operator means a person, that is, any individual, partnership, corporation, or Government agency as may be designated by the Secretary, who, as owner, cash tenant, or share tenant, operates the ranching unit during the grazing season. The definition also includes any person who, in the operation of the ranching unit, acts in a capacity similar to that of owner, cash tenant, or share tenant for the duration of the grazing season. The latter portion of the definition was included to cover persons who, although actually operating the ranching unit, are not technically owners, cash tenants, or share tenants but who have some other similar legal interest in or control of the range land in the ranching unit.

The definition of range land is technical. The provisions of the Soil Conservation and Domestic Allotment Act do not permit the carrying out of a range program on land owned or controlled by the United States Government or any agency thereof. The program is therefore restricted to land in which the operator has such a legal estate or interest as to give him control thereof during the grazing season. Range land includes land leased for at least the grazing season from any State, county, or municipal government, and it also includes land which is privately owned. The main characteristic of range land which is incorporated in the definition is that it produces forage for range livestock without cultivation or general irriga-

tion, 10 acres or more of which on the average for the ranching unit are required to graze 1 animal unit.

Only land which meets all requirements of the technical definition for range land may qualify for participation in the program.

Grazing capacity is expressed in terms of animal units and represents the average number of mature animals or equivalent thereof which the range land (exclusive of mountain meadowland for which an acreage allowance of \$0.40 per acre is included in the range-building allowance) of a ranching unit can sustain, on a 12-month basis, without injury to range forage, tree growth, or watershed. The establishment of grazing capacity is provided for in part VII of WRB-101 as amended. The aftermath of mountain meadows shall not be included in the grazing capacity of a ranching unit when, in the counties designated by the Director of the Western Division, the range-building allowance includes the item of \$0.40 an acre for land classified as mountain meadowland.

These provisions are supplemented by detailed instructions to range examiners upon the basis of whose report on examination of range land the county committee shall make its recommendations.

PART II—ASSIGNMENTS OF GRAZING CAPACITY, ASSIGNMENTS OF MOUNTAIN MEADOWLAND ACREAGE, AND APPROVAL OF PRACTICES BY COUNTY COMMITTEES

It is the responsibility of a ranch operator wishing to participate in the 1937 Agricultural Conservation Program with respect to range land as technically defined in part I of WRB-101 as amended, to submit to the county committee of the county in which the principal dwelling on the ranching unit is located (or if there is no principal dwelling, the county committee of the county in which the major portion of such ranching unit is located) a completed Form WR-115, Description of Range Land for 1937 Agricultural Conservation Program. No ranch operator shall participate in the program with respect to range land until a full and accurate legal description of such land has been provided.

Form WR-115 should be filled out by the ranch operator after having been instructed, in person, concerning the proper method of its completion, either during a group meeting or during an interview at the county office.

PROCEDURE FOR FILLING OUT FORM WR-115

1. *When none of the range land in the 1937 ranching unit is covered by a Form WR-16. Fill out Form WR-115 in full.*
2. *When the 1937 ranching unit consists of exactly the same range land as in 1936 and such land is fully described in Form WR-16. Enter on Form WR-115 "same land as in 1936" and omit the legal description. In this event, the county committee will obtain from the Form WR-16 for such ranching unit the legal description to be entered on the 1937 forms.*
3. *When the 1937 ranching unit consists of exactly the same range land as in 1936, described fully in Form WR-16, and of additional range land (i. e., the 1936 ranching unit has been en-*

larged). Enter the full and accurate legal description of the *additional* range land and the notation "Other land same as in 1936."

4. *When the 1937 ranching unit consists of some, but not all, of the range land included in the 1936 ranching unit which is described fully in Form WR-16, and some range land not included in that ranching unit for 1936.* Enter separately and identify as "land added in 1937" the full and accurate legal description of the 1937 range land which was not in the ranching unit in 1936. Also enter separately and identify as "land used in 1936 and 1937" the full and accurate legal description of the range land included in the ranching unit in *both* 1936 and 1937. (The procedure outlined in paragraph 1 is applicable when *none* of the range land in the ranching unit is covered by a Form WR-16.)
5. *When the 1937 ranching unit consists only of part of the range land included in the 1936 ranching unit (i. e., the 1937 ranching unit is smaller than the 1936 unit).* Enter only the full and accurate legal description of the range land in the 1937 ranching unit.

If it is known that a tract of range land included in a 1937 ranching unit, but not included in such unit in 1936, had a Form WR-16 completed with respect thereto, so indicate on Form WR-115 opposite the description of the land to which applicable.

The approximate acreage of all land in the ranching unit and the acreage of all *range land* (as defined in part I of WRB-101 as amended) should be entered in the space provided.

The county committee shall check the accuracy of the legal description of the range land entered on Form WR-115 and shall eliminate all land which does not come within the definitions of such land (as defined in part I of WRB-101 as amended).

It should be noted that the ranch operator's statements in Form WR-115 of the range-building practices for institution in 1937 are only for the preliminary information and guidance of the county committee. This information is to assist the county committee in determining whether the case will come within the provisions of paragraphs 1 and 2 next below. The practices with respect to which the ranch operator requests, or has requested and received, the county committee's approval will be indicated later on Form WR-116, and on the basis of such request the county committee will complete its certificate therein.

Provision is made on the back of Form WR-115 for the inclusion by the operator of a rough sketch showing the location of all land in his ranching unit.

The range examiner should not be directed to proceed with his work until the county committee has determined (1) that all land included in Form WR-115 is range land as technically defined in part I of WRB-101 as amended; (2) that the legal description of such land is accurate and (3) that the ranch operator will institute and complete in 1937 some range-building practices.

FOR EACH RANCHING UNIT PARTICIPATING IN THE 1937 PROGRAM, A FORM WR-116 SHALL BE COMPLETED IN QUADRUPLICATE, FOLLOWING THE PROCEDURE OUTLINED BELOW

1. *When land in the 1937 ranching unit includes exactly the same range land as in 1936; is covered by a Form WR-16; and all range-building practices requested for 1937 were reported on by the range examiner in 1936.* Upon receipt of a Form WR-115, a Form WR-116 shall be completed as follows:
 - (a) Code and ranch serial number.
 - (b) Name and address of the operator(s).
 - (c) Legal description of the range land.
 - (d) Local name of the ranching unit.
 - (e) Total acres and acres of range land.
 - (f) Grazing capacity.
 - (g) Certificate and application of operator.
 - (h) Certificate of county committee.
 - (i) With respect to the remaining portions of Form WR-116, enter "Other information contained in Form WR-16 bearing code and serial number-----."

The data required for items (a) to (g) shall be the data entered in the part of Form WR-16 for such ranching unit which precedes the range examiner's certificate.

2. *When the range land in the 1937 ranching unit includes exactly the same land as in 1936; is covered by a Form WR-16; but some range-building practices requested for 1937 were not reported on by the range examiner in 1936.* The range examiner, based upon information obtained from Form WR-16, or from 1937 field examinations, or both, shall submit his findings with respect to such new range-building practices on a Form WR-116. In the event that a field examination is required in 1937, the data obtained shall be reported by the range examiner in the appropriate place in Form WR-116. In all cases the range examiner's certificate in the Form WR-116 shall be executed. In other respects, the Form WR-116 shall be completed in the manner indicated in the paragraph next above.
3. *In all other cases including cases requiring reexamination,* a Form WR-116 shall be completed in full, based upon information obtained from Form WR-16, or from 1937 field examination, or both.
4. *When the acreage of mountain meadow land is determined for the purpose of inclusion in the range-building allowance.*
 - (a) The range examiner will submit his recommendation in respect to the total acres of range land in a ranching unit which can qualify as mountain meadow land. To record this entry, type in on the line just above "Forage Acres per A. U." the following "Mountain Meadow Land _____ Acres" and enter the number of acres in the blank space.
 - (b) In the "Certificate and Application by Ranch Operator" the operator, in addition to practices he wishes to perform on range land, other than mountain meadow

land, should insert, just below such practices, the practices which have been recommended by the range examiner for mountain meadow land.

(c) When Form WR-116 has already been completed for the ranching unit and the ranching unit is located in a county designated by the Director of the Western Division as one in which an acreage allowance for mountain meadow land shall be made, the examiner will insert the data on the completed Form WR-116 in the same manner as under (a) and will reduce the total grazing capacity by the number of animal units represented by the grazing capacity of the aftermath for such land. Changes will be initialled by the examiner.

(d) Under "Certificate of County Committee" type in between the first and second lines just after and above the words "animal units" in the second line the following "and _____ acres of mountain meadow land", and insert the number of acres. In the last line following "\$ _____", the following should be added "plus \$ _____ equals \$ _____"
 (Acreage allowance for mountain meadow land)
 \$ _____"
 (Total range-building allowance)

The county committee and the range examiner will determine whether the required information may be obtained from Form WR-16 or whether a field examination will be required. When the completion of Form WR-116 requires a field examination, such examination will be undertaken by the range examiner at the direction of the county committee. Such report on examination of range land shall be prepared in cooperation with the ranch operator.

After a Form WR-116 has been completed according to the applicable procedure, it should be reviewed by the ranch operator who shall indicate over his signature which of the range-building practices for which payment is provided in WRB-101 as amended, for the State he wishes the county committee to approve for subsequent institution and payment. The names of the range-building practices appearing in WRB-101 as amended, shall be used. The ranch operator in his certificate shall also state the extent of the practice for which he requests approval and the location thereof on the ranching unit (which location may be indicated by reference to the map for such ranching unit).

Based upon the information contained in the report on examination of range land (either Form WR-16 or WR-116), the county committee in the space provided on Form WR-116 shall recommend, for approval by the Secretary (1) a grazing capacity for the ranching unit; (2) the number of acres of mountain meadow land eligible for inclusion in the range-building allowance if the ranching unit is located in a county designated by the Director of the Western Division for this purpose, and (3) shall enter such of the practices, approval of which has been requested by the ranch operator prior to institution, as is determined will tend to effectuate the purposes of the Soil Conservation and Domestic Allotment Act. In determining

whether such practices will tend to effectuate the purposes of the Act, the county committee shall give consideration to the effect of the practices in checking the depletion of and in rebuilding the vegetative cover of range land, in preventing erosion, and in controlling stream flow. All practices approved at any time by the county committee, prior to institution, shall be entered in Form WR-116. In its certificate, the county committee with respect to each range-building practice it approves, shall indicate (1) the name of the range-building practice, using the terminology of WRB-101 as amended; (2) the maximum performance with respect to which payment will be made; (3) the minimum performance which must be carried out before *any* payment whatsoever will be made and (4) the location on which the practice must be carried out (which location may be indicated by reference to the map for such ranching unit).

After the county committee has executed its certificate, it shall send one copy of Form WR-116, completed as indicated above, to the operator and one copy to the State office. Within 15 days after the date of mailing such copy of Form WR-116, the operator may request in writing, stating the reasons therefor, the county committee to review its recommendations with respect to grazing capacity, the number of acres of mountain meadowland eligible for a range-building allowance, or approved range-building practices. In this event a range examiner, other than the one who made the original examination, may be requested either to review such recommendations or to make a reinspection and report his findings to the county committee. All revisions of recommendations of the county committee shall be based upon the report of such reviewing range examiner. If such revision is unsatisfactory, an appeal may be taken in accordance with applicable procedure prescribed for appeals under the 1937 Agricultural Conservation Program. The county committee in recommending for the approval of the Secretary any assignment of grazing capacity or number of acres of mountain meadowland eligible for a range-building allowance shall not arbitrarily change the figures recommended by the range examiner.

Payment will be made only for carrying out such range-building practices as were performed with the approval of the county committee in the manner prescribed above and completed in 1937.

PART III—RANGE-BUILDING PRACTICES

The following supplements the specifications contained in part IV of WRB-101 as amended for each State. The specifications contained in that bulletin and elaborated upon herein are minimum specifications. Performance in excess of the minimum will be acceptable but will be paid for at the rate prescribed for the minimum. All range-building practices shall be carried out in accordance with the general standards of good ranching practices.

All practices are applicable to range land used for grazing purposes, except the two practices under (K). The two practices under (K) are applicable only to mountain meadowland. In addition, the practices (H), rodent control, and (I), fire guards, are also applicable to mountain meadowland.

The specifications in this bulletin regarding range-building practices constitute additional instructions for the county committee in approving practices to be carried out on the ranching unit, and are also for the guidance of the supervisor in reporting such practices on the report of performance.

A. Contouring.—Furrows shall be constructed on the contour; not more than 25 feet apart; on slopes of more than 2 percent; and shall be not less than 8 inches in width and 4 inches in depth. Dams at intervals of not more than 100 feet shall be installed to check the free movement of water in the furrows and to permit penetration into the soil. Contouring of loose sandy soils shall not be approved. (See articles on contour furrowing in January 1937 issue of Soil Conservation published by the U. S. Department of Agriculture).

B. Springs and seeps.—Springs shall be developed by digging out the source in such a manner as to concentrate the water for conveyance through a pipe or trough to a wooden, metal, or concrete tank. The source shall be adequately protected from trampling, either by a fence which will turn all classes of stock or by rock and a substantial covering.

C. Earthen pits or reservoirs.—Any pit or reservoir developed for payment shall supply ample water for the number of livestock using the adjoining range during the period of grazing use, and shall be solely to bring about such a distribution of stock on the range as will conserve and restore the vegetative cover thereof but shall not be used to impound water for irrigating purposes.

Earth for dams shall be spread in layers and packed in the course of construction. Slopes of dams shall vary with the type of material used, and the face of each dam shall be adequately protected. In heavy soils, such as clay or gumbo, slopes shall be 3 to 1 on the face and 2 to 1 on the rear. In medium soils, such as loams or heavy silt, slopes shall be 4 to 1 on the face and 2½ to 1 on the rear. In light soils, such as sand, slopes shall be 6 to 1 on the face and 4 to 1 on the rear. The bottom of the spillway should be at least 3 feet below the top of the dam and the spillway shall be of such width and depth that it has a cross section of at least 45 square feet for the first square mile of drainage area above the dam and with an additional 15 square feet of cross section for each additional square mile of drainage area. Spillways not lined with wood, stone, or concrete shall be sodded or heavily grassed. Natural grassed-over depressions, if of the width specified, may be used instead of a constructed spillway. Protection of spillway and dam by a substantial fence capable of turning all classes of livestock is required. Seeding of dams with grass or plants is desirable.

D. Wells.—Any well developed for payment shall supply ample water for the number of livestock using the adjoining range during the grazing period and shall be solely for the purpose of bringing about such an improved distribution of stock on such range as will conserve and restore the vegetative cover thereof. A dry hole shall not qualify. No well developed at a ranch headquarters will qualify. A mechanical lifting device other than a hand pump shall be installed and in operation at the time of inspection. An existing well may be deepened to provide an additional supply of water adequate for the number of stock on the adjacent range; *but*

under no circumstances shall such performance be approved before measurements showing the depth of the existing well have been made and recorded with the county committee. An artesian well will be approved when constructed according to specifications except that a mechanical lifting device will not be required. A good sound trough or pipe shall convey the water to a tank or storage reservoir and shall be of sufficient size to assure an ample supply of good clear water for the number of livestock using the adjacent range.

E. Water spreading.—Retarding dams built to divert water from water courses to adjacent land shall be of sufficient size and so spaced as to divert water into outgoing ditches. Ditches to spread water over the range shall be of permanent construction; of a capacity sufficient to carry the water diverted; and with just enough fall to result in even spreading of the water. Ditching for any purpose other than water spreading will not qualify.

F. Fences.—Limited to *cross fences* and *drift fences*. Fences shall be constructed of *good* material and of sufficient height to turn cattle and horses. All posts must be sound. Corner posts shall be set firmly in the ground not less than three feet and shall be well braced. Posts shall be in line, set in the ground not less than $2\frac{1}{2}$ feet, and spaced not more than 20 feet apart. A tree may be used as a corner or line post. Where a wire fence crosses a draw, posts shall be weighted. Stays between the posts are desirable. The minimum specifications for a fence shall be three properly spaced barbed wires, tightly stretched. Woven wire may be used, but in this event at least two strands of barbed wire properly spaced shall be placed above the woven wire.

A properly constructed three-pole or three-rail fence capable of turning cattle and horses will qualify for payment, provided posts, figure 4's or jacks are spaced not more than 18 feet apart. Poles or rails shall be nailed with not less than a forty-penny spike. A four-log worm fence will qualify.

Corral fences, boundary fences, or line fences will not be approved. Any fence built for payment must contribute to a method of range management which will allow range restoration.

Under no circumstances will the repairing or rebuilding of an old fence qualify.

G. Reseeding.—This practice shall be recommended and approved only after a full consideration of the type of soil upon which the seed is to be sown and the climatic conditions of the locality. Seeding of denuded spots may be advisable. When seeded, it is desirable that such spots, if small and intermingled with usable range land, should be protected from livestock by fences or brush barriers. However, where the denuded area reseeded is extensive it shall be fenced or otherwise protected from livestock and shall not be grazed during 1937. Only good seed of adapted varieties shall be used.

H. Rodent control.—To be effective, rodent control should be extended to all adjacent infested areas and conducted under methods similar to those recommended by the Bureau of Biological Survey of the United States Department of Agriculture. This practice should not be approved for any ranch which is likely to become rein-

fested quickly from neighboring farms or ranches where control is not practiced. Indiscriminate use of poison bait is not advisable. All bait must be handled in accordance with the State laws. No payment shall be made for this practice if performance is carried out on less than the number of infested areas originally approved for control by the county committee. Inspection of performance shall be made before rodents hibernate.

I. Fire guards.—The purpose of this practice is to protect the vegetative covering of an operator's range land against fire. No payment shall be made for this practice if the fire guard is used to control burning on the ranching unit.

J. Deferred grazing.—The performance of deferred grazing, like all other range-building practices, is optional with the ranch operator. This practice provides a practical method of naturally reseeding depleted range land. It is one which does not reduce the total grazing capacity of the ranching unit but simply effects a change in the seasonal distribution of stock on the ranching unit. Payment will not be made with respect to any range land which the county committee determines on the basis of previous use is not used normally for grazing during the period established for deferred grazing by the State committee. Nor will payment be made for the performance of deferred grazing if the remainder of the land in the ranching unit is grazed in 1937 to an extent that causes deterioration.

Deferred grazing is accomplished by dividing the ranching unit into two or more controlled units. All stock shall be kept off the unit designated for deferred grazing from a specified date in the spring until after the principal forage crops mature seed. The dates during which grazing shall be deferred will be established by the State committee. No payment will be made for this practice if *any* livestock are grazed on the deferred unit *at any* time within the period specified by the State committee. After the close of the specified period the deferred unit may be grazed but not cut for hay.

Before deferred grazing shall be approved by the county committee, a management plan for the ranching unit shall be worked out and submitted to the county committee for its approval. Any payment with respect to deferred grazing shall be conditioned upon the ranch operator carrying out the plan approved by the committee. In general, the performance of deferred grazing upon a ranching unit which *currently* is seriously overgrazed cannot check depletion and rebuild the vegetative cover of range land. If the operator of a ranching unit which is overgrazed does not wish to undertake a plan of management which will prevent deterioration of his range land, the county committee will direct his attention to other available practices which he may carry out.

ILLUSTRATION OF METHOD OF CALCULATING PAYMENT FOR DEFERRED GRAZING

Ranching unit includes 2,000 acres of range land and grazing capacity is 100 animal units. The period established by the State committee for deferred grazing is 3 months.

- (1) The operator defers grazing on 500 acres.

$\frac{500}{2,000}$ acres=25 percent of acreage on which grazing is deferred.

$25\% \times 100$ animal units=25 animal units.

$3 \text{ months} \times \$0.35 \text{ per month} \times 25 \text{ animal units} = \26.25 payment.

25 percent is the maximum acreage with respect to which payment may be made for deferred grazing. Even though grazing is deferred on more than 25 percent of the acreage of range land, payment would be calculated as above.

- (2) The operator defers grazing on 300 acres.

$\frac{300}{2,000}$ acres=15 percent of acreage on which grazing is deferred.

$15\% \times 100$ animal units=15 animal units.

$3 \text{ months} \times \$0.35 \text{ per month} \times 25 \text{ animal units} = \26.25 payment.

K. Mountain meadowland practices in counties within a State which are designated by the director of the Western Division:

1. **Reseeding mountain meadowland.**—This practice is limited exclusively to depleted mountain meadows which need reseeding and is restricted to seedings of the adapted varieties of the perennial grasses and legumes specified in WRB-101, as amended, for this practice. Good seed must be used and the seedings shall not be grazed during 1937.

Where denuded spots are seeded in a meadow, and it is desirable to graze the aftermath after the hay is cut, such spots must be protected from livestock. Large areas of this kind shall be fenced. Brush barriers may furnish adequate protection for small areas.

2. **Earthen dams for erosion control on mountain meadows.**—The purpose of this practice is to prevent soil erosion on mountain meadowland. It is accomplished by constructing earthen dams to divert the flood water of intermittent streams. Such dams may be located on the meadowland or on adjoining land of the ranching unit. Dams constructed under this practice to impound water for irrigating purposes shall not be approved. Any ditching constructed for the purpose of diverting flood water from dams of this type shall be constructed at the expense of the operator. For specifications for the construction of earthen dams, see part III, section C, "Earthen Pits and Reservoirs", second paragraph.

It is to be noticed that, in order to qualify for payment the foregoing practices must be carried out on mountain meadowland which is classified as range land within the meaning of the term as defined in part I of WRB-101, as amended.

PART IV—RANGE-BUILDING PAYMENTS

Range-building payments will be made for the carrying out of range-building practices approved for each State at the rates established for such practices, provided, that such practices are carried out in accordance with specifications. *Payment will not be made unless such practices are approved in writing by the county committee prior to their institution and are completed within the calendar year 1937.* The county committee, pursuant to the provisions of section 1, part IV of WRB-101, as amended, shall not approve any practice which an operator has carried out or is carrying out pursuant to any other provision of the 1937 Agricultural Conservation

Program. The total of all payments with respect to performance of range-building practices on a ranching unit shall not be in excess of the range-building allowance.

PART V—RANGE LISTING SHEETS

After assignments of grazing capacity have been made and the number of acres of mountain meadowland of a ranching unit which are eligible to receive a range-building allowance have been determined, Form WR-117, Listing Sheets, should be prepared in *quaduplicate*, the original and two copies being forwarded, after approval by the county committee, to the State committee. The State committee upon approval shall forward one good copy to the Director of the Western Division.

The number assigned to a ranching unit in 1936 shall be used again in 1937 only if the 1937 ranching unit contains exactly the same range land as in 1936. In all other cases, a new serial number shall be assigned beginning at the point where the last number was assigned in 1936 and continuing thereafter so as to maintain a numerical sequence for the county. The number so assigned will continue to identify the ranching unit during the program and will be the number to be inserted on all forms where a serial number for the ranching unit is required. Should the assignment be terminated, even though such termination is for the purpose of substituting a revised assignment, the number given for such an assignment shall not be used again. If an assignment is made after original designation of numbers, such assignment will be numbered so as to maintain a numerical sequence for the county. In completing the listing sheets all serial numbers shall be listed in column (a) and either the grazing capacity entered or an appropriate explanation made as to why the number does not cover an active folder.

In column (b) headed "Name(s) of Operator(s)", list the names of all operators of such ranching unit. In column (c) enter the total number of acres of range land (as technically defined in part I of WRB-101 as amended) in the ranching unit, and in column (d) list the number of acres of mountain meadow land which qualify for a range-building allowance as recommended by the county committee for the ranching unit. In the last column (e) enter the grazing capacity recommended by the county committee for the ranching unit.

SECTION L OF PART III OF WRB-105—APPLICABLE ONLY TO CALIFORNIA

L. Tanks or troughs.—The size of the tank or trough to be constructed will depend upon the number of stock using it during the grazing season. Troughs or tanks shall be of permanent construction and shall be set upon a solid foundation. *A leaky tank or trough will not qualify.* Only new metal or new wooden tanks or troughs will qualify. No payment will be made for any installation of tanks or troughs which is carried out in conjunction with the practice, *development of springs and seeps.* Nor will payment be made for tanks or troughs installed at the ranch headquarters. Payments shall be made only for the construction of tanks or troughs which are for

the exclusive use of range livestock; which bring about a more effective distribution of stock over the adjacent range; and which are remote from the primary source of water.

Wooden troughs shall be made of first-class material, not less than 2 inches in thickness (approximately $1\frac{7}{8}$ inches when surfaced), free from cracks and knots and braced at both ends with two half-inch iron rods, one at the top and one at the bottom. Troughs more than 10 feet in length shall be braced in the center at the top with the same size rod used in bracing the ends, and a hole provided at one end to facilitate cleaning and draining. Joints shall be coated with white lead and shall be water tight.

In the construction of concrete water troughs, a rich mixture composed of not less than one part cement, two parts sand, and three parts gravel shall be used. The size of gravel used shall not exceed one-third of the width of the space to be filled. The sides, ends, and bottom shall be adequately reinforced, and shall be not less than $2\frac{1}{2}$ inches in thickness. The top edges of the trough shall be rounded, and the sides shall have a slope of about one-half inch per foot of height.

The construction of a concrete water tank also calls for a rich mixture, with walls not less than 6 inches in thickness and adequately reinforced. Larger gravel may be used in the construction of a tank than that used in constructing a trough. Troughs and tanks shall have a hole in the bottom for drainage. All edges should be rounded. (See Farmers Bulletin No. 1480, "*Small Concrete Construction on the Farm*", published by the U. S. Department of Agriculture.)

Metal tanks installed shall have provisions for draining. To prevent stock from getting into a tank, it is advisable to set posts just on the outside and to attach securely a pole on top of the posts thus permitting stock to obtain water by running their heads between the top of the tank and the pole.

SECTION M OF PART III OF WRB-105—APPLICABLE ONLY TO IDAHO

M. Railing sage-brush.—Railing of sage-brush shall be approved only where the sage-brush cover is dense and only if artificial or natural reseeding practices are complementary thereto.